

## NOTES ON EAST ASIAN *PLATOR* (ARANEAE, GNAPHOSOIDEA)

By

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### Synopsis

PLATNICK, Norman I. (Department of Entomology, The American Museum of Natural History, New York): Notes on East Asian *Plator* (Araneae, Gnaphosoidea). *Acta Arachnol.*, 27: 1-7.

*Hitoegumoa* KISHIDA is newly synonymized with *Plator* SIMON. *Plator insolens* SIMON and *P. nipponicus* (KISHIDA) are redescribed, and a new species, *P. pennatus*, is described from southern China.

The spider family Platoridae was established by SIMON (1890) for a small group of Asian and South American species characterized by an extremely flattened body and laterigrade legs. Because of the latter character, the group was long thought to be related to the crab spiders, but laterigrade legs seem necessary in any spider so adapted to living under bark or in narrow rock crevices that the dorsoventral height of the body is less than that of the legs. ROEWER (1954), LEHTINEN (1967), and HOMANN (1971) have thus discounted the laterigrade legs of platorids as an adaptive character, and placed the group in the Gnaphosoidea. This placement seems reasonable as the platorid genera have all three characters (widely separated anterior spinnerets, obliquely depressed endites, and flattened, irregularly shaped posterior median eyes) by which gnaphosids are generally recognized, and as there are several genera currently placed in the Gnaphosidae that have similarly flattened bodies and laterigrade legs.

Thus as currently interpreted, the Gnaphosoidea (Gnaphosidae, Platoridae, and Prodidomidae) does appear to be a monophyletic taxon, but the division of the superfamily is less acceptable, as neither the platorids nor the prodidomids appear to be clearly delimited from the gnaphosids and even if their

current limits are accepted it cannot be shown that the Platoridae or Prodidomidae, singly or together, form the sister group of the Gnaphosidae. An attempt to investigate the relationships of the platorids and flattened gnaphosids has shown that, as in most groups of relatively rare spiders, the present generic classification, built up by numerous authors many of whom had only limited knowledge of previously described forms, is unreliable, particularly on an intercontinental basis. This paper is the first in a proposed series that will contain redescrptions of the type species of the genera involved as well as synonymies, transfers, and descriptions of new taxa, and that will hopefully lay the groundwork for an eventual reclassification of the superfamily.

The four genera that have been placed in the Platoridae (*Plator* SIMON from Asia, *Vectius* SIMON and *Doliomalus* SIMON from South America, and *Hitoegumoa* KISHIDA from Japan) share a number of unusual and seemingly apomorphic characters: the carapace is wider than long, bears a posterior carina, and has four linear depressions on each side; the thoracic groove is obliterated; the coxae are elongated; the legs are laterigrade and lack true spines; and the median spinnerets are directed ventrally and have elongate tips bearing double rows of spigots (SIMON, 1897, figs. 13, 15). All of these characters, however, occur in one combination or another in the various genera currently placed in the Hemicloestinae (Gnaphosidae), though no hemicloestines share all the characters. For example, the carapace is also wider than long in the Australian genus *Pyrnus*, bears a posterior carina in some African *Platyoides*, and has linear depressions in Australian *Hemicloea*. Until the platorid genera can be shown to share a uniquely derived character, the validity of the grouping is suspect, and some of the genera may prove to be more closely related to a hemicloestine than to each other.

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***Plator* SIMON**

- Plator* SIMON, 1880, p. 106 (type species by monotypy *Plator insolens* SIMON);  
ROEWER, 1954, p. 474; BONNET, 1958, p. 3699.  
*Hitoegumoa* KISHIDA, 1914, p. 44 (type species by monotypy *Hitoegumoa nipponica*  
KISHIDA). NEW SYNONYMY.  
*Hitoyegumoa*: YAGINUMA, 1960, p. 123.

Diagnosis: *Plator* may be distinguished from the other flattened Gnaphosoidea by the semicircular, much wider than long carapace bearing a posterior carina together with the subequally spaced eyes of the anterior row (Fig. 8). *Plator* seems most closely related to the South American genus *Vectius*, which has a similar carapace but anterior median eyes much closer to each other than to the laterals.

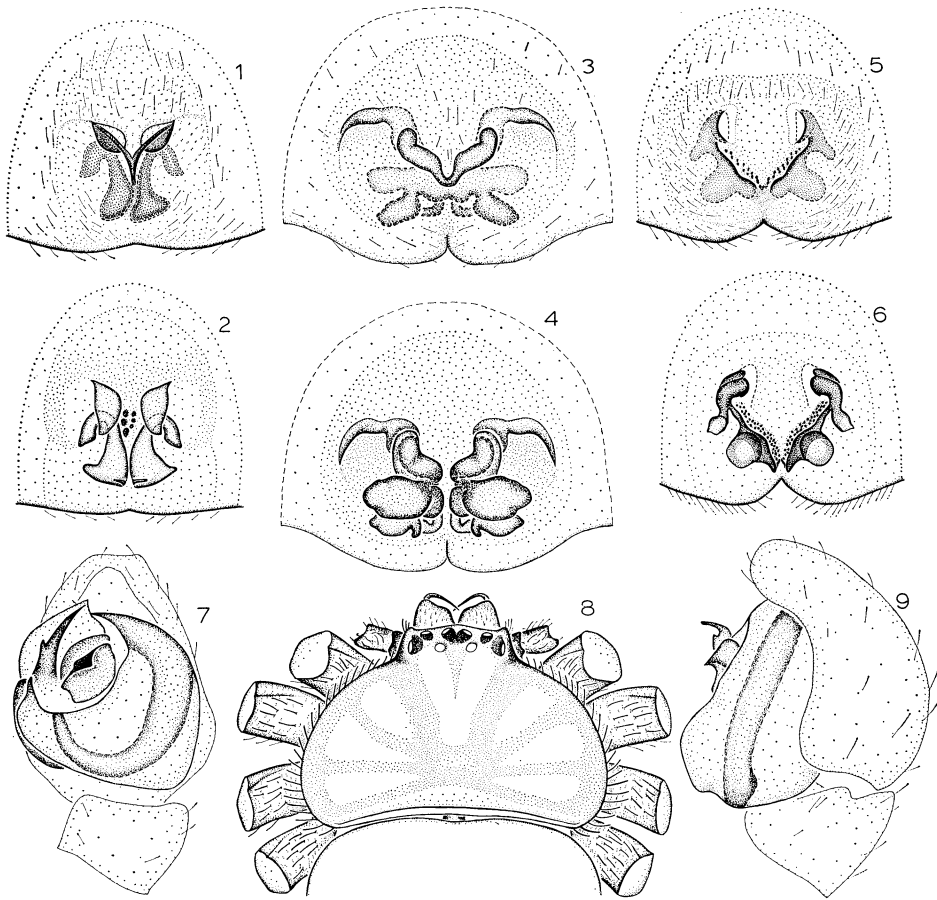
Synonymy: KISHIDA (1914) separated *Hitoegumoa* from *Plator* by the anterior spinnerets being much larger than the posteriors; in specimens examined of both genera the anterior spinnerets are only slightly larger than the posteriors, and the type species of the two taxa agree closely in both somatic and genitalic characters.

Notes on Indian Species: In addition to the East Asian forms discussed below, several *Plator* have been described from India; in general they differ little from *P. insolens*, though a male from Dalhousie (BMNH) has a small triangular anterior dorsal scutum on the abdomen and thick scopulae on the anterior tarsi and metatarsi. There seems little justification for considering the females POCK described from the Himalayas as *P. ixodinus* conspecific with the male SIMON described from Maharashtra as *P. indicus*. *Plator pandeae* TIKADER is probably a synonym of *P. ixodinus*, but there are at least three other distinct species in the Himalayas (this information is based on specimens and manuscripts loaned by Dr. B. K. TIKADER of the Zoological Survey of India, Poona, whose assistance is greatly appreciated).

***Plator insolens* SIMON**

(Figs. 1, 2, 8)

- Plator insolens* SIMON, 1880, p. 106, pl. 3, figs. 4, 5 (female holotype from Peking Municipality, China, in MNHN, examined); ROEWER, 1954, p. 474; Bonnet, 1958, p. 3700.



Figs. 1-9. 1, 2, 8. *Plator insolens* SIMON. 1. Epigynum, ventral view. 2. Vulva, dorsal view. 8. Carapace, dorsal view. 3, 4. *P. pennatus*, new species. 3. Epigynum, ventral view. 4. Vulva, dorsal view. 5-7, 9. *P. nipponicus* (KISHIDA). 5. Epigynum, ventral view. 6. Vulva, dorsal view. 7. Palp, ventral view. 9. Palp, retrolateral view.

Diagnosis: Females of *Plator insolens* may be easily recognized by the leaf-like anterior epigynal margins (Fig. 1).

Male: The male described by KULCZYŃSKI (1901) may or may not belong to this species.

Female: Total length, not including chelicerae, 6.01 mm. Carapace 2.08 mm. long at midline, 3.17 mm. wide at coxae III, where widest, pale orange, darkest anteriorly, semicircular, with abruptly narrowed ocular area, extending

further posteriorly at sides than at midline; each side with four linear depressions between palpi and coxae I and between other coxae, leading from margin to thoracic area; posterior margin preceded along its entire length by heavily sclerotized, elevated carina; thoracic groove obsolete; margins with single row of bristles, other areas with scattered setae. Eight eyes in two rows; from above, anterior row slightly recurved, posterior row recurved; posterior row longer than anterior. Anterior median eyes circular, others oval; posterior laterals largest, others subequal; all eyes except posterior medians ringed with black pigment, pigment around anterior medians contiguous. Anterior eyes separated by slightly more than their diameter; posterior eyes separated by more than twice their diameter. Median ocular quadrangle wider in back than in front and than long. Clypeus with elongate setae, height equal to about half the anterior median eye diameter. Chelicerae dark orange, short, projecting forward, with three promarginal and two retromarginal teeth and scattered anterior setae. Labium pale orange, elongate, arrow-shaped, proximal half narrowed, tip broadly rounded. Endites pale orange, V-shaped, with oblique depression, produced beyond labium, with extensive translucent serrula. Palpal segments short, heavily armed with bristles; tarsus with small claw. Sternum pale orange, wider than long (95/72), truncate anteriorly and posteriorly, rounded laterally, strongly rebordered, with short extensions toward coxae II-IV; coxae IV separated by roughly three-fourths of their length. Abdomen longer than wide (108/101), pale yellow, rounded, with recumbent light and scattered erect dark setae. Six spinnerets, no colulus; anterior and median spinnerets in transverse line; anteriors short, without visible spigots; medians with elongated tips bearing two longitudinal rows of spigots (median row with seven or eight, lateral row with nine spigots); posterior spinnerets conical, separated by anal tubercle. Leg formula 2341. Femur II 4.35 mm. long. Legs laterigrade, pale yellow, leg I darkest; all segments with elongate bristles in rows on morphologically dorsal and ventral surfaces but true spines lacking. Tarsi without claw tufts or scopulae, with two dentate claws and protruding onychium. Metatarsal preening comb lacking. Trochanters unnotched, of normal size. Coxae greatly elongated, longer than tarsi. Distal segments with elongate dorsal trichobothria. Epigynum as in Fig. 1, vulva as in Fig. 2.

Material Examined: Only the holotype.

Distribution: Northern China.

***Plator pennatus*, new species**

(Figs. 3, 4)

Type: Female holotype from Yunnan Province, China (no date, J. GRAHAM), deposited in BMNH.

Etymology: The specific name is from the Latin *pennatus* (winged) and refers to the shape of the anterior epigynal margins.

Diagnosis: Females of *Plator pennatus* may be easily distinguished from the other known species by the wing-like anterior epigynal margins (Fig. 3).

Male: Unknown.

Female: As in *P. insolens* except for the following: Total length, not including chelicerae, 8.42 mm. Carapace 3.17 mm. long, 4.82 mm. wide, with only a few setae at margins. From above, anterior eye row straight. Anterior median eyes separated by their diameter, by one and one-half times their diameter from anterior laterals. Posterior median eyes separated by slightly more than twice their diameter, by almost three times their diameter from posterior laterals. Chelicerae with three or four promarginal and two or three retromarginal teeth. Abdomen brownish gray dorsally, pale yellow ventrally. Femur II 6.55 mm. long. Femora pale orange, other leg segments dark orange. Epigynum as in Fig. 3, vulva as in Fig. 4.

Material Examined: Only the holotype.

Distribution: Southern China.

***Plator nipponicus* (KISHIDA), new combination**

(Figs. 5-7, 9)

*Hitoegumoa nipponica* KISHIDA, 1914, p. 44, pl. 1 (male holotype from Japan, lost).

*Hitoyegumoa nipponica*: YAGINUMA, 1960, p. 123, fig. 335, pl. 100-12.

Diagnosis: Males of *Plator nipponicus* may be recognized by the tubercle at the base of the embolus (Fig. 7), females by the V-shaped epigynal margins (Fig. 5).

Male: As in female *P. insolens* except for the following: Total length, not including chelicerae, 5.51 mm. Carapace 2.02 mm. long, 3.03 mm. wide. Anterior median eyes separated by slightly less than their diameter from anterior laterals. Tips of median spinnerets relatively short. Femur II 4.21 mm. long. Embolus with tubercle at base (Fig. 7). Retrolateral tibial apo-

physis lacking (Fig. 9).

Female: As in *P. insolens* except for the following: Total length, not including chelicerae, 6.72 mm. Carapace 2.63 mm long, 4.04 mm wide. Posterior median eyes separated by almost three times their diameter from posterior laterals. Abdomen light gray. Femur II 5.44 mm long. Epigynum as in Fig. 5, vulva as in Fig. 6.

Material Examined: JAPAN: *Honshū*: Osaka: Matsubara, in temple (October, 1962; AMNH), 1 ♂; Osaka, in house (July 6, 1956; AMNH), 1 ♀.

Distribution: Honshu, Japan.

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